

ON THE OCCURRENCE OF THE CHINESE MITTEN CRAB, *ERIOCHEIR SINENSIS*, IN PORTUGAL (DECAPODA, BRACHYURA)

BY

H. N. CABRAL and M. J. COSTA

Instituto de Oceanografia, Faculdade de Ciências de Lisboa, Campo Grande, P-1700 Lisboa, Portugal

ABSTRACT

The present paper reports the occurrence of the Chinese mitten crab, *Eriocheir sinensis* H. Milne Edwards, 1854, in Portugal and thus extends its known southerly distribution for Europe. Available Portuguese data are presented and discussed including a possible new size record for the northeastern Atlantic region.

RÉSUMÉ

La présence du Crabe Chinois, *Eriocheir sinensis* H. Milne Edwards, 1854, est signalée au Portugal, ce qui étend sa distribution en Europe vers le sud. Les données portugaises sont fournies et discutées, y compris un possible record de taille pour la région atlantique nord-orientale.

The Chinese mitten crab, *Eriocheir sinensis* H. Milne Edwards, 1854, is a species of the temperate zone of eastern Asia, inhabiting China from the province of Fukien in the south to the west of Korea in the north (Panning, 1938).

Since its introduction into Germany in 1912 (Peters & Panning, 1933), several authors have reported on the dispersal of the mitten crab throughout Europe from the Netherlands (Otto & Kamps, 1935; Adema, 1991), Denmark (Jensen, 1936), Czechoslovakia (Panning, 1938), Belgium (Leloup, 1943; Adema, 1991), France (Hoestland, 1959), Finland and Sweden (Haahtela, 1963), and the British Isles, (Ingle, 1986). In the 1980's the European range of this crab stretched from the Bay of Biscay to the Baltic Sea (Christiansen, 1982).

Since 1994, 30 individuals of the Chinese mitten crab were caught during beam trawl sampling surveys for fish and crustaceans, in the Tagus estuary, Portugal (fig. 1). According to local fishermen, the mitten crab appeared in the Tagus basin during the late 1980's and from 1988 to 1990 the species was abundant, but the population has decreased over the past seven years. The farthest upstream record was an individual caught 80 km from the estuary. Mitten crabs are caught

TABLE I

Data concerning the 30 individuals of *Eriocheir sinensis* H. Milne Edwards, 1854, caught in the Tagus estuary, Portugal

Date	Salinity (ppt)	Temperature (°C)	Depth (m)	Water transparency (cm)	Carapace width (mm)	Carapace length (mm)	Sex
13-iii-1995	22	18	1.8	30	62	58	M
15-v-1995	30	20	3	15	68	64	M
17-v-1995	27	22	3.5	25	65	59	M
17-v-1995	27	22	3.5	25	64	61	M
19-v-1995	12	21	4.5	35	69	64	F
24-v-1995	14	21	5	35	68	63	F
14-vi-1995	9	23	4	40	80	74	F
14-vi-1995	9	23	4	40	64	61	F
14-vi-1995	9	23	4	40	67	62	M
10-viii-1995	15	23	3	35	69	64	F
22-iv-1996	7	17	1	10	77	70	F
22-iv-1996	7	17	1	10	70	65	F
04-v-1996	13	16	4	60	69	65	M
08-vii-1996	22	25	3	30	81	78	F
17-vii-1996	16	25	2	25	68	64	F
18-vii-1996	26	23	2	30	71	65	F
31-vii-1996	5	24	3	40	78	73	M
31-vii-1996	5	24	3	40	78	72	M
31-vii-1996	5	24	3	40	74	71	M
11-xi-1996	2	15	4	35	70	65	M
29-xi-1996	2	15	4	40	78	73	M
29-xi-1996	2	15	4	40	80	74	M
30-xi-1996	1	15	2.5	40	73	68	F
30-xi-1996	1	15	2.5	40	78	74	M
30-xi-1996	1	15	2.5	40	76	72	M
30-xi-1996	1	15	2.5	40	76	72	F
30-xi-1996	1	15	2.5	40	78	73	M
30-xi-1996	1	15	2.5	40	74	70	M
30-xi-1996	1	15	2.5	40	69	65	M
18-xii-1996	19	14	2	40	88	84	M

ACKNOWLEDGEMENTS

The authors thank Dr. Michael Elliott who kindly commented on a draft version of the manuscript, and the Junta Nacional de Investigação Científica e Tecnológica for funding.

REFERENCES

- ADEMA, J. P. H. M., 1991. Krabben van Nederland en België (Crustacea, Decapoda, Brachyura): i-xii, 1-244. (National Museum of Natural History, Leiden).

- CHRISTIANSEN, M., 1982. A review of the distribution of Crustacea Decapoda Brachyura in the northeast Atlantic. *Quad. Lab. Tecnol. Pesca*, **3**: 347-354.
- FALCIAI, L. & R. MINERVINI, 1995. *Guía de los crustáceos decápodos de Europa*: 1-282. (Ediciones Omega, S. A., Barcelona).
- HAAHTELA, I., 1963. Some new observations and remarks of the occurrence of the mitten crab, *Eriocheir sinensis* Milne Edwards (Crustacea, Decapoda), in Finland. *Aquilo, (Zool.)* **1**: 9-16.
- HAYWARD, P. J. & J. S. RYLAND, 1995. *The handbook of the marine fauna of north-west Europe*: 1-800. (Oxford Univ. Press, Oxford).
- HOESTLAND, H., 1959. Répartition actuelle du crabe chinois (*Eriocheir sinensis* H. Milne Edwards). *Bull. France Piscicult.*, **194**: 5-13.
- INGLE, R. W., 1986. The Chinese mitten crab *Eriocheir sinensis* H. Milne Edwards — a contentious immigrant. *The London Naturalist*, **65**: 101-106, fig. 1.
- JENSEN, A., 1936. Den kinesiske uldhaandskrabbe (*Eriocheir sinensis* M.-Edw.) in Denmark. *Biol. Meddr.*, **13**: 1-23.
- LELOUP, E., 1943. Contributions a l'étude de la faune Belge. XIII. La propagation du crabe chinois en Belgique pendant des années 1939-42. *Bull. Mus. Roy. Hist. nat. Belgique*, **19**: 1-4.
- OTTO, J. & L. F. KAMPS, 1935. Die chinesische Wollhandkrabbe in den Niederlanden, besonders in den Provinzen Groningen und Friesland. *Zool. Anz.*, **110**: 109-116.
- PANNING, A., 1938. The Chinese mitten crab. *Ann. Rep. Smithsonian Inst.*, **1938**: 361-375.
- PETERS, N. & A. PANNING, 1933. Die chinesische Wollhandkrabbe (*Eriocheir sinensis* H. Milne-Edwards) in Deutschland. *Zool. Anz.*, **101**: 267-271.

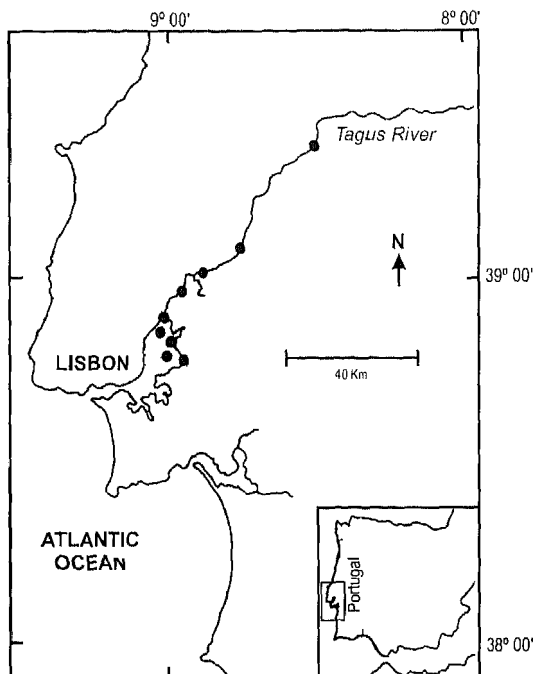


Fig. 1. Occurrence of *Eriocheir sinensis* H. Milne Edwards 1854, in Portugal, within the Tagus estuary and upstream in the river (● = reported occurrence).

mainly as a bycatch in traps used for the eel fishery and the species is considered a pest because it damages nets. However, despite the low abundance at present, this exotic crab is commercially exploited at some localities along the Tagus and it attains higher market prices than some of the most abundant decapod species, namely *Crangon crangon* (L., 1758) and *Carcinus maenas* (L., 1758).

In some European countries there is concern over the burrowing behaviour of *E. sinensis* and over the fact that they may compete with indigenous species, but to date there are no data concerning these issues in Portugal.

Data pertaining to the individuals caught in the Tagus estuary are presented in table I. Some of these showed larger carapace length than the maximum suggested by Falciai & Minervini (1995) and Hayward & Ryland (1995) (respectively, 63 and 62 mm). Adema (1991) gave as largest specimen known from the Netherlands a male with a carapace length of slightly more than 85 mm which is 3 mm shorter than the largest Portuguese crab.